

**ABSTRACT**

In general, the invention is directed to identification of intrinsic ventricular activity occurring within a ventricular signal. In particular, the invention involves the analysis of ventricular signal morphology to determine if the signal contains intrinsic ventricular activity while delivering pacing pulses separated by nearly constant time intervals. Furthermore, the invention specifies an extension of a pacing interval based on whether or not the signal contains intrinsic ventricular activity. In this manner, the pacing interval is only extended when it is likely for intrinsic ventricular activity to occur.